

Application No.: 10/658,777

Docket No.: 020501.0802PTUS

AMENDMENTS TO THE CLAIMS

Kindly amend the claims as follows:

1. (Withdrawn) A method comprising:
receiving network data;
reassembling a client-server communications session from the network data; and
detecting, through the network data, leaks of information by analyzing the client-server communications session using at least one of (i) statistical and (ii) keyword -based detection.
2. (Withdrawn) The method of claim 1, further comprising
decoding the client-server communications session to detect and inspect one or more application protocols, and
wherein the client-server communications session includes the one or more application protocols.
3. (Withdrawn) The method of claim 2, wherein the one or more application protocols includes at least one of (i) pdf, (ii) http, (iii) e-mail, (iv) e-mail attachment, (v) ftp, (vi) zip, (vii) ms word, (viii) ms excel, (ix) html, (x) xml, (xi) gzip, (xii) tar and (xiii) plain text.
4. (Withdrawn) The method of claim 1, wherein the client-server communications session includes at least one of (i) TCP, (ii) IP and (iii) ethernet.
5. (Withdrawn) The method of claim 1, wherein the statistical-based detection includes multi-dimensional content profiling.
6. (Withdrawn) The method of claim 1, wherein the statistical-based detection includes domain-specific high-level features.
7. (Withdrawn) The method of claim 6, wherein the domain-specific high-level features includes at least one of (i) social security numbers, (ii) credit card numbers, (iii) postal addresses and (iv) e-mail addresses.

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8. (Withdrawn) The method of claim 1, wherein the keyword-based detection includes one or more weighted keywords.
9. (Withdrawn) The method of claim 1, wherein the information includes a digital asset.
10. (Withdrawn) The method of claim 1, further including analyzing the network data so as to detect any unauthorized encrypted session.
11. (Withdrawn) A method comprising:
receiving network communications; and
preventing an unauthorized and/or malicious transfer, through the network communications, of data by providing at least content reassembly, scanning and recognition to the network communications in real time.
12. (Withdrawn) The method of claim 11, wherein the content scanning and recognition includes multi-dimensional content profiling.
13. (Withdrawn) The method of claim 11, wherein the content scanning and recognition is tailored to local data.
14. (Withdrawn) The method of claim 11, wherein the method is capable of preventing the unauthorized and/or malicious transfer, through the network communications, of data on fully saturated Gigabit speeds.
15. (Currently Amended) A method comprising:
receiving network data; and
processing the network data at a decoder chain to create input data for applying at least multi-dimensional content profiling;
preventing, through the network data, leaks of information by at least applying the multi-dimensional content profiling; and

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wherein the multi-dimensional content profiling comprises:

loading one or more profiles, wherein the one or more profiles each comprise an expected set of statistical characteristics of data;
continuously receiving the input data from the decoder chain;
determining a probabilistic measure of membership of the input data relative to the one or more profiles;
comparing the probabilistic measure with a threshold requirement for each of the one or more profiles; and
generating a reactive measure if the probabilistic measure meets the threshold requirement.

16. (Original) The method of claim 15, wherein the information includes a digital asset.
17. (Original) The method of claim 15, wherein the multi-dimensional content profiling takes into account the structure of the information.
18. (Withdrawn) A machine-readable medium having encoded information, which when read and executed by a machine causes a method comprising:
 - receiving network data;
 - reassembling a client-server communications session from the network data; and
 - detecting, through the network data, leaks of information by analyzing the client-server communications session using at least one of (i) statistical and (ii) keyword -based detection.
19. (Withdrawn) A machine-readable medium having encoded information, which when read and executed by a machine causes a method comprising:
 - receiving network communications; and
 - preventing an unauthorized and/or malicious transfer, through the network communications, of data by providing at least content reassembly, scanning and recognition to the network communications in real time.
20. (Currently Amended) A machine-readable medium having encoded information, which when read and executed by a machine causes a method comprising:

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receiving network data; and
processing the network data at a decoder chain to create input data for applying at least multi-dimensional content profiling;
preventing, through the network data, leaks of information by at least applying multi-dimensional content profiling; and
wherein the multi-dimensional content profiling comprises:
loading one or more profiles, wherein the one or more profiles each comprise an expected set of statistical characteristics of data;
continuously receiving the input data from the decoder chain;
determining a probabilistic measure of membership of the input data relative to the one or more profiles;
comparing the probabilistic measure with a threshold requirement for each of the one or more profiles; and
generating a reactive measure if the probabilistic measure meets the threshold requirement.

21. (Withdrawn) An apparatus comprising:
a receiver to receive network data;
a processor, coupled to the receiver, to (i) reassemble a client-server communications session from the network data and (ii) detect, through the network data, leaks of information by analyzing the client-server communications session using at least one of (i) statistical and (ii) keyword-based detection.
22. (Withdrawn) An apparatus comprising:
a receiver to receive network communications; and
a processor, coupled to the receiver, to prevent an unauthorized and/or malicious transfer, through the network communications, of data by providing at least content reassembly, scanning and recognition to the network communications in real time.
23. (Currently Amended) An apparatus comprising:
a receiver to receive network data; and

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a processor, coupled to the receiver, to prevent, through the network data, leaks of information by at least applying multi-dimensional content profiling, wherein the processor processes the network data at a decoder chain to create input data for applying at least the multi-dimensional content profiling;

the multi-dimensional content profiling comprising:

loading one or more profiles, wherein the one or more profiles each comprise an expected set of statistical characteristics of data;

continuously receiving the input data from the decoder chain;

determining a probabilistic measure of membership of the input data relative to the one or more profiles;

comparing the probabilistic measure with a threshold requirement for each of the one or more profiles; and

generating a reactive measure if the probabilistic measure meets the threshold requirement.

24. (New) The method of claim 15, wherein processing the network data at the decoder chain comprises extracting data by removing one or more layers of content encoding selected from the group consisting of common compression, aggregation, file formats, encoding schemas, and combinations thereof.

25. (New) The method of claim 15, further comprising creating the profile by:
loading positive training sets of documents;
representing each document from the positive training sets of documents as a point in multi-dimensional space;
separating the individual points in the multi-dimensional space with a set of hyperplanes wherein the set of hyperplanes effectively separate the multi-dimensional space into regions representing the positive training sets of documents; and
converting the set of hyperplanes into the profile.

26. (New) The method of claim 25, further comprising creating the profile by:
loading negative training sets of documents;

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representing each document from the negative training sets of documents as a point in multi-dimensional space;

separating the individual points in the multi-dimensional space with a set of hyperplanes wherein the set of hyperplanes effectively separate the multi-dimensional space into regions representing the negative training sets of documents; and
converting the set of hyperplanes into the profile.

27. (New) The method of claim 15, wherein determining the probabilistic measure comprises updating one or more counters in a predetermined order, calculating values of output dimensions based on the one or more counters, and calculating an output score based on the output dimensions wherein the output score represents the probabilistic measure.

28. (New) The method of claim 15, wherein the preventing operates in real-time.

29. (New) The method of claim 15, further comprising terminating sessions with leaks of information before the network data is fully transferred.

30. (New) The method of claim 15, further comprising preventing, through the network data, leaks of information by also applying keyword scanning.

31. (New) The machine-readable medium of claim 20, wherein the profile is created by:
loading positive training sets of documents;
representing each document from the positive training sets of documents as a point in multi-dimensional space;
separating the individual points in the multi-dimensional space with a set of hyperplanes wherein the set of hyperplanes effectively separate the multi-dimensional space into regions representing the positive training sets of documents; and
converting the set of hyperplanes into the profile.

32. (New) The machine-readable medium of claim 31, wherein the profile is created by:
loading negative training sets of documents;

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representing each document from the negative training sets of documents as a point in multi-dimensional space;

separating the individual points in the multi-dimensional space with a set of hyperplanes wherein the set of hyperplanes effectively separate the multi-dimensional space into regions representing the negative training sets of documents; and

converting the set of hyperplanes into the profile.

33. (New) The machine-readable medium of claim 20, further comprising receiving the network data at a decoder chain prior to implementing the multi-dimensional content profiling, wherein the decoder chain extracts data by removing one or more layers of content decoding selected from the group consisting of common compression, aggregation, file formats, encoding schemas, and combinations thereof.

34. (New) The machine-readable medium of claim 20, wherein the multi-dimensional content profiling further comprises establishing a connection with an alert module prior to sending the reactive measure.

35. (New) The machine-readable medium of claim 20, wherein the calculating the set of output dimensions comprises determining one or more values for each counter and combining the one or more values for each counter to create the set of output dimensions.

36. (New) The apparatus of claim 23, wherein the calculating an output score is performed for each of the one or more profiles.